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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:

WILLIAM DANIEL TOOHEY

Serial No. 09/239,671

Filing Date: January 29, 1999

For: DIGITAL VIDEO AUDIT SYSTEM

Group Art Unit: 2876

Examiner: Daniel St. Cyr

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Commissioner for Patents
Washington, D.C. 20231

AMENDED APPEAL BRIEF UNDER 37 CFR 1.192(a) and 37 CFR 1.192(d)

I. Real Party in Interest

The real party interest in this appeal is TransCore, Inc., a corporation ("Appellant"), and owner of United States patent application number 09/239,671, entitled "Digital Video Audit System" (the "Application").

II. Related Appeals and Interferences

There are no other appeals or interferences known to Appellant or to Appellant's legal representative which will directly affect or be directly affected by or have a bearing on the Board of Patent Appeals and Interferences' ("the Board") decision in this appeal.

III. Status of Claims

The pending claims at issue are set forth in Exh. 1. The current status of each claim in the case, including whether such claim is canceled, allowed, or rejected, and whether such claim is on appeal is set forth below:

CLAIM NO.	STATUS	ON APPEAL
1	Rejected	Yes
2	Rejected	Yes
3	Rejected	Yes
4	Rejected	Yes
5	Rejected	Yes
6	Rejected	Yes
7	Rejected	Yes
8	Rejected	Yes
9	Rejected	Yes
10	Rejected	Yes
11	Rejected	Yes
12	Rejected	Yes
13	Rejected	Yes
14	Rejected	Yes
15	Rejected	Yes
16	Rejected	Yes
17	Rejected	Yes
18	Rejected	Yes
19	Rejected	Yes
20	Rejected	Yes
21	Rejected	Yes

CLAIM NO.	STATUS	ON APPEAL
22	Rejected	Yes
23	Rejected	Yes
24	Rejected	Yes
25	Rejected	Yes
26	Rejected	Yes
27	Rejected	Yes

IV. Status of Amendment

The claims are currently as found in the original application, together with the amendment to Claim 12 as presented in the Response to Office Action dated August 23, 2001.

V. Summary of the Invention

The present invention is directed to a system for collecting and organizing video images and data associated with a transaction into a single database. The system includes a database management system for the organizing and data retrieval.

The present invention is used in applications where large amounts of video and non-video data for transactions must be quickly stored and retrieved. One use of the invention is in connection with toll plaza data. However, further embodiments of the invention may include other contexts of use. Further embodiments of the invention are applicable to financial environment data such as, for example, financial transaction data in a banking environment, and to retail environment data such as, for example, retail transaction data in a retail store. (Specification, page 2, line 20 through page 3, line 15;

page 28, line 19 through page 31, line 17.) Toll plazas on highways must store, for each vehicle passing by each toll booth, video data in the form of license plate information, as well as the non-video transactional data such as the time of day, the toll charged, etc. Such data must be quickly retrievable in connection with the audits performed by governments on the toll booth data.¹

The key to this system is the use of a database controlled by a database management system to quickly store the video images and transaction data, and to organize that data for fast retrieval. The use of the invention in the toll plaza environment discussed above is shown in Figs. 1 and 2. A video camera 8a or 8b is used to make a video record of each transaction by a vehicle passing through a toll plaza. That video data is transmitted to a computer system 30. (Specification, page 7, lines 15-18.) The video data enters the computer through a video splitter 32 and is processed by a video digitizer 30b that converts the analog images into digital images. (Specification, page 7, lines 12-16; page 9, lines 4-5.)

At the same time, non-video toll collection data is sent to the computer 30 via a port 30a. These data signals represent the collection of money from drivers, the type of vehicle, the time and date of the toll collection, etc. (Specification, page 8, lines 4-9.) The port and the video digitizer communicate through a bus network 30d to a File

¹ Vehicles are typically charged different rates depending upon their respective sizes. A two axle vehicle is charged less than a three axle vehicle and both are charged less than a four axle vehicle. Toll booth operators must accurately collect the amount of money depending upon the vehicle. If toll booths consistently charge the incorrect amount, the municipality could see a substantial loss over a protracted period of time.

(cont'd)

Management System 30c. The File Management System receives the digitized video and the toll plaza data, organizes and synchronizes that data, and then forwards it for storage through a network 36 to a centralized database 37. That database 37 stores the various data and also can be coupled to other toll plaza systems for receiving and processing similar data. (Specification, page 9, line 14 through page 10, line 3.)

The process of storing transactional toll data and video data is depicted in Fig. 5. In response to a trigger signal activated by the vehicle, the cameras take an image of the lanes and the transaction data is gathered. (Specification, page 15, line 11 through page 16, line 15; page 17, lines 9-13.) The File Management System collects all of this data and builds the appropriate application files in step S55 of Fig. 5. The information in the toll plaza data table and in the video image data table are transferred to the centralized database 37 for data archiving purposes. (Specification, page 20, lines 12-15.) Figs. 4a-c show the organization of the synchronized transactional and video data within the database. The transactional data is stored in a toll plaza data table 45, and the images are stored in an image data table 47. (Specification, page 13, line 4 through page 14, line 7; page 15, lines 3-7.)

When data retrieval is desired, the centralized database 37 receives a user request. The server 38 attached to the database 37 organizes the data in a format that the client 39 can display to the user. (Specification, page 21, line 19 through page 22, line 8.) Fig. 7 shows the data formatting that occurs upon retrieval. As depicted therein,

(... cont'd)

Thus, an audit system is needed to check too booth collectors and make sure they are

(cont'd)

the video image and toll transaction data are merged into a single display for use by a user. (Specification, page 24, lines 2-3.) As discussed in the specification, data can be displayed in a variety of formats. Specific queries can also be sent to the database in order to allow customized retrieval. (Specification, page 24, lines 16-19.)

As also discussed in the specification, while a relational database is contemplated, other kinds of database known to one of ordinary skill in the art can also be utilized such as object-oriented databases, distributed databases, and hierarchical databases can be utilized. (Specification, page 31, line 20 through page 32, line 2.)

VI. Issues On Appeal

The issues that Appellant wishes the Board of Patent Appeals and Interferences to review in this appeal are:

1. Whether Claims 1-10, 21, and 24-26 are properly rejected under 35 U.S.C. § 102(e) as being anticipated by Katz, U. S. Patent No. 5,920,338 (Exh. 2).
2. Whether Claims 11-20, 22-23, and 27 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Katz.

VII. Grouping of Claims

Appellant submits that the claims do not stand or fall together for the reasons discussed in § VIII.A.

(... cont'd)

not making consistent mistakes or, worse, taking money from the municipality.

VIII. Argument

A. The Claim Groupings

There are four claim groups. Claims 1-11 relate to a system for collecting and organizing data. Claims 12-20 relate to a method of creating a transaction-based database. Claims 21-23 relate to a system for collecting transaction data. Claims 24-27 define a database system. These groupings are patentably distinct, which is the reason for the groupings.

B. The Final Office Action

The Final Office Action in this case was mailed on November 27, 2001 (Exh. 3). It is from this Final Action that this appeal ensues. As stated therein, the Examiner objected to Claims 1-10, 21, 24-26 under 35 U.S.C. § 102(e) on the basis of Katz, U. S. Patent No. 5,920,338. The Examiner also rejected Claims 11-20, 22-23, and 27 under 35 U.S.C. § 103(a) as unpatentable over Katz.

The prosecution in this case was very abbreviated because of the position taken by the Examiner. The initial Office Action in this case mailed June 21, 2000 (Exh. 4) made these same rejections. Appellant's Response to that Office Action dated August 23, 2001 (Exh. 5) traversed these rejections and requested reconsideration, amending Claim 12 in the process. The Examiner's response on November 27, 2001 was to simply reassert the same rejections and to make them final.²

² In the November 27, 2001 Office Action, the Examiner stated in the second sentence on page 4 that "the Applicant failed to challenge the rejection [under section 103(a)]." As a review of the August 23, 2001 Office Action will indicate, however, that assertion is simply incorrect.

C. The Rejections Under 35 U.S.C. § 102(e) Are Improper

The sole basis for all of the rejections by the Examiner is U. S. Patent No. 5,920,338 issued to Katz (Exh. 2). The Examiner stated that "Katz discloses an asynchronous video event and transaction data multiplexing technique for [a] surveillance system comprising: a video camera 16 or a plurality of cameras 100, 102, 104 for capturing video images of a transaction; an input device 20 for collecting data associated with the transaction [and] a database management system 14 for organizing the video images and data associated with the transaction" (emphasis added).

The Examiner's analysis is simply incorrect, particularly with regard to the supposed "database management system for organizing the video images and the data associated with the transaction." As a close review of Katz will indicate, the Examiner has misunderstood the fundamental nature of the Katz system. Katz is not directed at all to establishing a single database to record both video images and data associated with a transaction. Instead, and as a review of Fig. 1 of Katz will indicate, the only "database" is the transaction database 14 used to store non-video transaction data. That transaction database is even stored in a different media than the video images taken by the camera 16. The video images in Katz are simply recorded on a VCR or similar recording mechanism 22.

Thus, at the outset, there is absolutely no teaching in Katz regarding a common synchronized video/transaction data database. Moreover, there is no teaching of such a database in Katz in the context of a database with a query structure such that a query into the database using a portion of the transaction data acts as a key to retrieving the image correlated to that data. The crucial distinction between Appellant's invention and

Katz is that Appellant's invention, as defined in Claim 1, is a system, with a database management component, for collecting and organizing transactional data and video images and data associated with a transaction into a database. Katz's system is not such a system. Likewise, as indicated in Claim 12, Appellant's invention is a method of creating a transaction database comprising the steps of storing an image of a transaction and video data connected to the transaction in a database such that a query into the database using a portion of the data acts as a key for retrieving the image correlated to the data. Katz does not disclose this aspect of the invention.

Katz has the same problems as the prior art discussed in the Background of the Invention. That art frequently uses video tape storage of images separate from the storage of the transaction. Indeed, Katz is directed to a surveillance system which asynchronously (i.e., without being phased or in step) records the video signals corresponding to events on one medium (videotape) and transaction data in another medium.³ To achieve playback of this information, the system requires that the transaction data, which is stored separate and apart from the video, be matched with the video being replayed from videotape. As was repeatedly pointed out to the Examiner during prosecution, a thorough review of Katz provides no teaching or suggestion regarding Appellant's storage of both transactional data and video images in a single database as claimed.

³ Katz's system has two separate units to store video images related to a transaction as well as the separate transaction data. As a result of the utilizing of these two separate and distinct storage media, it is necessary in Katz that each media include data identification signals. See Katz at col. 2, lns. 60-67

In fact, the distinct nature of the present invention and Katz is highlighted by the Examiner's recognition that Katz is an asynchronous relative to the storage of the transactional data in the transaction database and the storage of the video images on the videotape. The asynchronous nature of Katz is what requires the Katz system to generate sequencing signals that are associated with the transaction data and video signals to allow the signals to be brought together at a later time.

By contrast, the present invention is a synchronous system in which the digitized video data and the transactional data are stored in tables on the same storage media such as a disk drive. The present invention combines the data from the digitized video images with clock/calendar data and toll plaza data into the database together as an ongoing and synchronous process such that the data is organized by the File Management System for retrieval as soon as it is stored. Once stored, that synchronized video and transaction data can be quickly retrieved with a database query.

Katz cannot provide the quick retrieval required by the demanding application environment of the present invention. As described, Katz uses separate storage units for video and transactional information, along with requires an entirely separate structure that provides correlation between the two separately stored transaction data and video data. Katz thus requires the searching of two completely different data sources to find related information. Searching a VCR for video information, particularly non-digitized video information, is exceedingly slow. In contrast with Katz, the present invention utilizes a single database for quickly storing and retrieving both video and corresponding data relating to the video information. This is a significant improvement

to the system of Katz, particularly since the retrieval is done via a single transactional identifier, rather than the laborious searching of two different data sources in Katz to look for matching data.

In the final Office Action, under the heading "Remarks," the Examiner, stated as follows in response to Appellant's contentions that there was no common video/transaction database within Katz:

In response to Applicant's general argument that Katz (5,216,502) does not disclose having both transactional data and video data in a database. [sic-] the Examiner respectfully disagrees. Katz discloses having both transaction data from the lane controller, frames of video, and including additional data to be recorded at the database 50 within the database system 40 (see col. 9, lns. 19-53).

From the outset, this is a different Katz patent that formed the basis for the rejections interposed by the Examiner. The '502 Katz patent (Exh. 6) does not disclose a database as item 50. Instead, item 50 in the '502 patent is a video cassette recorder. Item 50 in the '338 patent is a video input. Accordingly, the Examiner's comments on page 3 of the final Office Action are at best puzzling and at worst simply incorrect.

The Examiner went on to state as follows:

Furthermore, the Applicant claims that a "database management system for organizing the video images and data associated with the transaction into a database." The Applicant **does not** claim in Claims 1 and 12 having **both** transactional data and the video data in the same database. The Applicant's argument is not persuasive.

This statement is equally mystifying. The term "a database" clearly means the same database. Appellant did not state a plurality of databases or different portions of different databases. Appellant clearly stated "a" database. There is no way to read that phrase except that the video and transactional data are combined into the same

database. It is respectfully submitted that the Examiner's analysis of the claim is simply wrong.

In summary, by its own disclosure, as well as by the Examiner's own characterization of it as an "asynchronous" system, Katz is not a § 102 reference. In particular, once the Examiner's erroneous determination relative to the database management system is made clear, Katz should be removed completely as a rejection.

Katz does not anticipate any of the groups of claims. The first group of claims, based on independent Claim 1, requires that "database management system for organizing the video images and data associated with the transaction into a database." That element is completely missing from Katz.

The second group of claims, based upon independent Claim 12, requires the "storing the image and the data into a database such that a query into the database using a portion of the data acts as a key for retrieving the image correlated to the data." That element is completely missing from Katz.

The third group of claims, based upon independent Claim 21, requires "a computer system for correlating additional data with each image," together with a "storage system for storing the images and the additional data." These elements are absent from Katz due to its asynchronous nature because Katz does simply not correlate (at the time of storage) or store together the images and the data, and instead does no more than place identification signals in each of the two storage media for later correlation.

Relative to the fourth group of claims, based upon Claim 24, Katz does not teach a "storage medium for storing the first and the second image wherein the first and

second image are correlated via the identifier.” The entire technology of Katz is different. The storage of the transactions and video data into a database for easy retrieval using query instructions so that a particular transaction and its corresponding image are quickly retrieved is completely missing from Katz.

The § 102 rejections should be reversed.

D. The Rejections Under 35 U.S.C. § 103 Are Improper

The Examiner rejected Claims 11-20, 20-23 and 27 as being unpatentable over Katz. The Examiner stated, without citation to any prior art, that whatever was missing from Katz relative to these claims was supplied by the prior art, leading the Examiner to conclude that all aspects of these claims were obvious.

The Examiner’s statements regarding Claims 11, 22, 23 and 27 are particularly confusing. The Examiner states that Katz fails to suggest video signals can be captured based upon “a barcode reader reading a bare [sic-bar] code label.” Claims 22 and 23 do not deal with barcode readers, as do Claims 11 and 27. As such, the rejection is mystifying. In any event, the fundamental flaw of the Examiner relative to the database issue, when combined with the admission of the Examiner as to the failure of Katz to teach barcodes, only underscores the inappropriateness of Katz as a § 103 reference.

Regarding Claims 12-20, the Examiner again concedes that Katz fails to teach using a portion of the data as a key for retrieving the image correlation data. The Examiner then concludes, again without citation to prior art, that that this part of the invention is old, so as to allow him to reach a conclusion of obviousness for these claims. As discussed above, the concession of the lack of teaching of Katz as to using

a key, when combined with the lack of teaching of Katz as to the database, should completely remove Katz as a § 103 reference.

Thus, as to each of the four groups of claims, the Examiner's § 103 rejections so completely missed the mark that rejections should be reversed as to each group.

IX. Conclusion

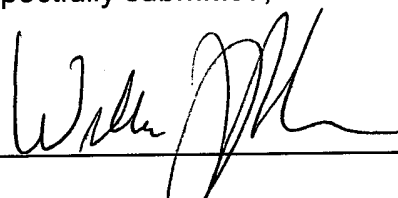
For each and all of the foregoing reasons, Appellant respectfully submits that the § 102 and § 103 rejections should be reversed and pending claims allowed.

Respectfully submitted,

Date

1/10/03

By



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EXHIBIT 1

The following claims are involved in this appeal:

CLAIM NO.

1. A system for collecting and organizing data comprising:
a video camera for capturing video images of a transaction;
an input device for collecting data associated with the transaction;
a database management system for organizing the video images and the data associated with the transaction into a database.
2. The system of claim 1 wherein the data associated with the transaction includes time data.
3. The system of claim 1 wherein the data associated with the transaction includes date data.
4. The system of claim 1 wherein the data associated with the transaction includes monetary data.
5. The system of claim 1 wherein the video images are captured based upon a signal that is produced in response to the input device collecting data.
6. The system of claim 1 wherein the images are captured based upon a clock signal.
7. The system of claim 1 further comprising:
a terminal for allowing an operator to input queries into the database and receive the image and the data associated with the transaction in response to the queries.
8. The system of claim 1 wherein the transaction is a toll collection.

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9. The system of claim 1 wherein the transaction is a financial transaction.
10. The system of claim 1 wherein the transaction is a retail transaction.
11. The system of claim 10 wherein the video images are captured based upon a bar code reader reading a bar code.
12. A method of creating a transaction based database comprising:
 - capturing an image of the transaction as the transaction occurs;
 - collecting data correlating to the transaction;
 - storing the image and the data into a database such that a query into the database using a portion of the data acts as a key for retrieving the image correlated to the data.
13. The method of claim 12 further comprising:
 - triggering the capturing of the image based on the collecting of data.
14. The method of claim 12 further comprising:
 - triggering the capturing of the image based on a clock signal.
15. The method of claim 12 further comprising:
 - retrieving the image and the data from the database in response to the query.
16. The method of claim 15 further comprising:
 - displaying the image and the data on a monitor for an operator to view.
17. The method of claim 16 wherein the operator makes adjustments to the data stored in the database.

18. The method of claim 15 further comprising:
displaying the next image and associated data on the monitor in response to the operator issuing a request to view the next image.
19. The method of claim 15 further comprising:
displaying the next image and associated data on the monitor in response to the operator issuing a request to view the next transaction in time.
20. The method of claim 15 further comprising;
displaying the next image and associated data on the monitor in response to the operator issuing a request to view the next transaction with a particular value in a particular data field.
21. A system for collecting data about a transaction comprising:
a camera for capturing images of documents related to the transaction;
a trigger system for triggering the camera to capture the images;
a computer system for correlating additional data with each image; and
a storage system for storing the images and the additional data.
22. The system of claim 21 wherein the trigger system is comprised of:
at least one light emitter that emits at least one beam of light;
at least one light detector for detecting the at least one beam of light; and
a pulse generator which outputs a pulse in response to the at least one light detector detecting an object breaking the at least one light beam.
23. The system of claim 22 wherein the object is a financial document.

24. A database system comprising;
- a camera for capturing a first and a second image.
 - a generator for generating an identifier;
 - a storage medium for storing the first and the second image wherein the first and the second image are correlated via the identifier.
25. The database system of claim 24 further comprising;
- an input device for receiving transaction based data related to the first and second image.
26. The database system of claim 25 wherein the input device includes a toll collector.
- 27 The database system of claim 25 wherein the input device includes a bar code reader.